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(54) A DUCTING UNIT FOR ELECTRICAL AND/OR GAS APPLIANCES

(71) We, TRILUX-LENZE KG., of Heidestrasse, 5760 Neheim-Huesten, Germany (Fed. Rep.); a German company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to an extruded ducting unit for electrical and/or gas appliances.

Ducts having a housing covering the front surface of the duct and having support rails provided thereon are known and are particularly used in intensive care units in hospital. In these units, the condition of seriously ill patients is monitored by instruments. These ducts, which are mounted either singly or in a plurality on the wall of the room, in the region of patients' beds, where connecting points for low-tension and high-tension electrical appliances and for gas appliances are required. Below and/or above such a ducting unit, there are frequently mounted support rails which extend parallel to the ducts and upon which medical appliances can be mounted by means of clamps. The connection of the appliances to the electrical or gas supply is effected at suitable points on the front surface of the ducting unit.

In such intensive care units, these rails are generally mounted on the wall above and/or below the ducting unit. They generally are spaced apart from the wall on which they are mounted. It is therefore usually necessary to provide separate fixing devices on the wall for the ducting unit and for the rails. This makes assembly of the unit somewhat lengthy.

Therefore the rail or rails have been mounted directly on the ducting or vice-versa. In one known arrangement of this latter type, the housing of the ducting is hooked onto a mounting rail which is secured to the wall. Between the rear wall of the housing and the wall on which it is mounted, an open space is formed. In this space, carrier blocks are screwed to the wall, which blocks receive carrier bars. At the front end of the carrier bars, a carrier rail is mounted which is spaced apart from the housing. The medical appliances are then clamped onto the carrier rail.

However, such a mounting of the rail is expensive and complicated. Moreover, undesired spaces which are difficult to clean are formed between the blocks and in which dust can settle. In sickrooms, and especially in intensive care units, however, high hygienic standards are necessary and devices provided therein must be kept clean.

An object of the present invention is to provide a ducting unit having carrier rails which avoids the disadvantages of the known devices.

According to the present invention, an extruded ducting unit for electrical and/or gas appliances comprises a generally U-shaped housing adapted to be fixed to a wall surface at the base of the U, at least one carrier rail for said appliance, being formed integrally with the front region of one or both of the upper and lower arms of the U, and running along the length of the housing, the or each said rail being spaced proud of its respective arm of the housing by a connecting web.

Advantageously, the or each housing is symmetrical about its transverse medical axis and has carrier rails formed at one or both of its front edges.

The or each carrier rail may be formed on the housing and connected thereto by an inclined said connecting web.

Further advantageously, the or each carrier rail is formed as a hollow box section.

Preferably, the rear wall of the or each carrier rail is substantially V-shaped in section, the connecting web joining the rear wall at the apex of the V.

By forming the carrier rails directly on the housing, it is no longer necessary to provide additional securing means as are used in known designs. A construction which is smooth and has no spaces which are accessible only with difficulty is therefore provided. This permits cleanliness to be maintained so as to conform with the strict hygiene requirements. The symmetrical formation of the housing permits a ducting system to be produced which has carrier rails both at its top and bottom. A

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single duct arrangement preferably is provided with a carrier rail on both the upper and lower edge of the housing.

It is also possible to form a multiple ducting unit. In such an arrangement, the housing for the uppermost duct is provided with an upwardly directed carrier rail and the lowermost duct with a carrier rail facing downwardly.

The invention will be further described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 shows, somewhat schematically, a ducting unit having three ducts arranged one above the other on the wall of, for example, a hospital ward,

Fig. 2 an end view, also schematic, of the ducting unit of Figure 1,

Fig. 3 is a perspective view, partially in section, of a housing, having a carrier rail formed thereon, for the ducting unit of Figs. 1 and 2,

Fig. 4 is a similar view of a housing as shown in Fig. 3 but which is provided with two carrier rails formed thereon,

Fig. 5 is a perspective view, partially in section, of two housings mounted one above the other, each having a carrier rail formed thereon; and

Fig. 6 is a similar view of three housings, mounted one above the other, in which only the upper and lower housings are provided with a carrier rail.

In Figure 1, two beds 3 in a hospital ward are shown schematically. Three generally U-shaped ducts each having a housing 1 or 2 are mounted at the base of the U, one above the other on a wall over these beds 3. General connection or tapping points for high- and low-tension electrical devices or gases are shown at 6. The upper and lower ducts are each provided with a housing 1 these upper and lower housings each being provided with a carrier rail to which medical appliances 7 are attached. To enable such appliances to be suspended at a lower level, for example, drip bottle 9, a holder 8 may be provided on the lower rail 4.

As can be seen most clearly in Figure 2, a bracket 10 is mounted on the upper carrier rail 4, and is supported by means of suitable angle plates 14 affixed to the front wall of the housing 2 of the centre duct. Clamps 15 are provided to secure the appliances 7 or the bracket 10 to the rail 4.

In Figure 3, there is shown a carrier rail 4 formed on the front edge 12 of the upper wall 11 of a housing 1 and connected thereto by a connecting web 5. The housing, connecting web and carrier rail form an integral extrusion profile. The carrier rail 4 in this embodiment has a hollow box profile, the rear wall 4*a* of which is substantially V-shaped in section. The connecting web 5 joins the wall at the apex of the V 4*b*.

The housing 1, apart from the carrier rail 4 and web 5 formed thereon, is symmetrical about its medial transverse axis. Accordingly a duct may be formed with either an upper or a lower carrier rail 4.

A structure, which is of the same principle, is shown in Fig. 4. In this Figure, there is shown a housing 101 in which carrier rails 104 are formed on the front edge 112 of each side wall 111 and are connected thereto by webs 105. Such a housing is suitable for use when a single bank duct is to be provided and medical appliances are to be retained on different levels.

A similar arrangement is shown in Figure 5, wherein two identical housings 1 are mounted one above the other as mirror images of one another whereby on the carrier rail 4 formed on the upper housing is directed upwardly whilst the rail on the lower housing faces downwardly.

Figure 6 shows two ducts of the type shown in Figure 1, having an intermediate housing 2 having no carrier rail interposed therebetween. In such an arrangement, the ducts can each accomodate a different supply system.

The ducts which have been hereinbefore described are particularly intended for use in intensive care units in hospitals, but they may also be used in laboratories or other workrooms in which appliances are to be mounted in close proximity to connection points to supply systems.

WHAT WE CLAIM IS:—

1. An extruded ducting unit for electrical and/or gas appliances, comprising a generally U-shaped housing adapted to be fixed to a wall surface at the base of the U, at least one carrier rail for said appliances being formed integrally with the front region of one or both of the upper and lower arms of the U and running along the length of the housing, the or each said rail being spaced proud of its respective arm of the housing by a connecting web.

2. A unit as claimed in claim 1, in which each housing is symmetrical about its transverse medial axis and has carrier rails formed at one or both of its front edges.

3. A unit as claimed in claim 1 or 2, in which the or each carrier rail is connected to the housing by an inclined said connecting web.

4. A unit as claimed in any of the preceding claims, in which the or each carrier rail is formed as a hollow box section.

5. A unit as claimed in any of the preceding claims, in which the rear wall of the or each carrier rail is substantially V-shaped in section, the connecting web joining the rear wall at the apex of the V.

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6. An extruded ducting unit constructed and arranged substantially as hereinbefore described with reference to and as illustrated in any of the Figures of the accompanying drawings.

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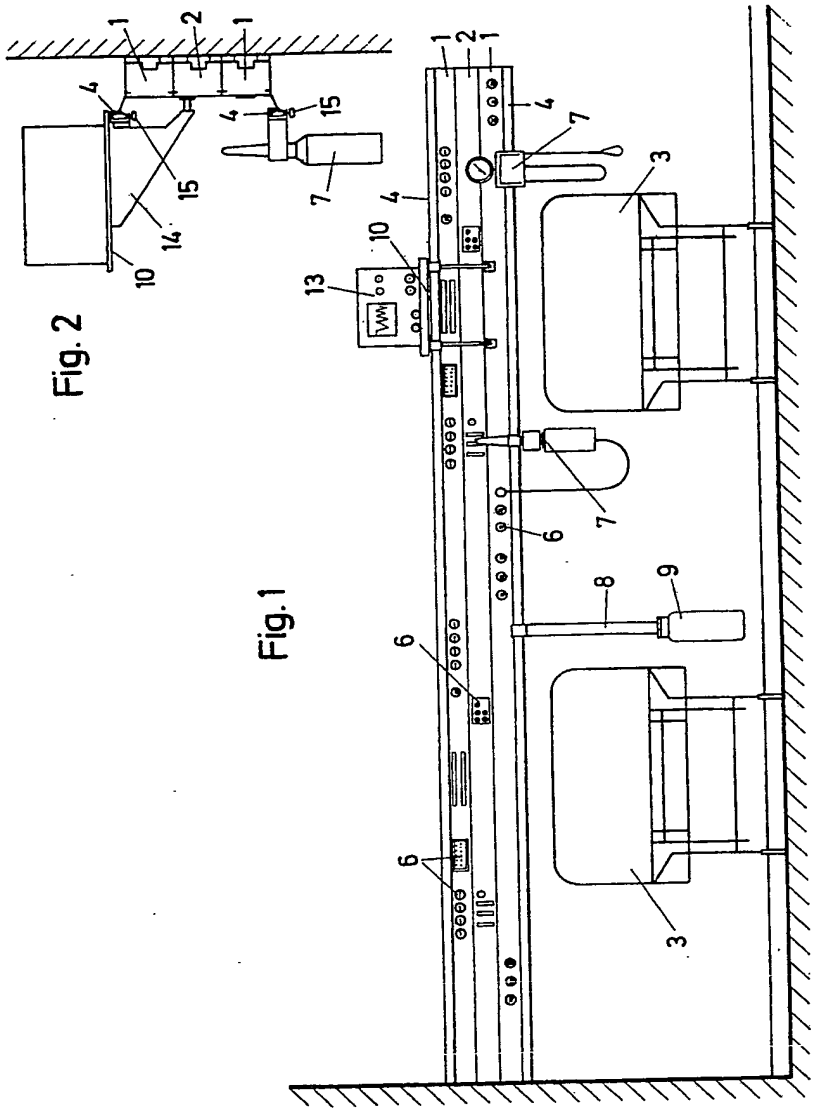
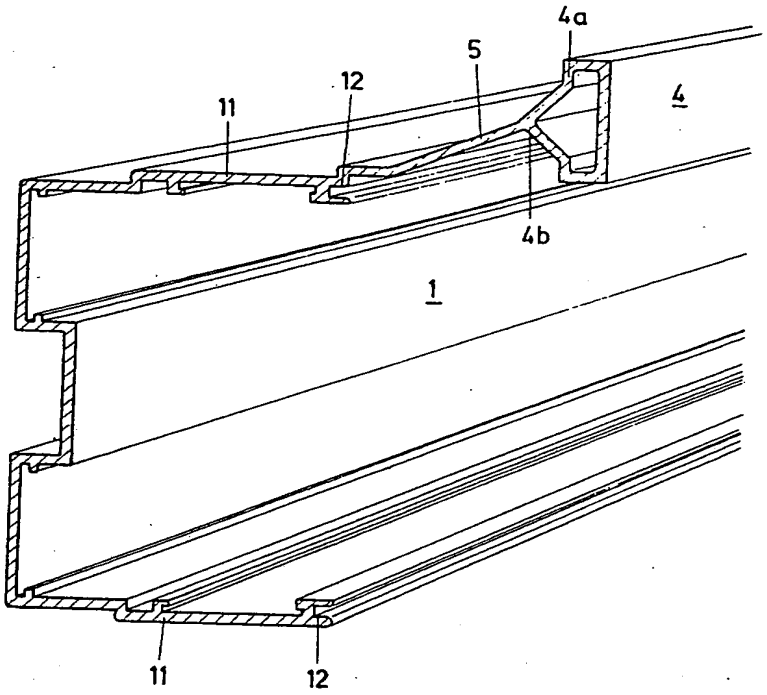


Fig. 2

Fig. 1

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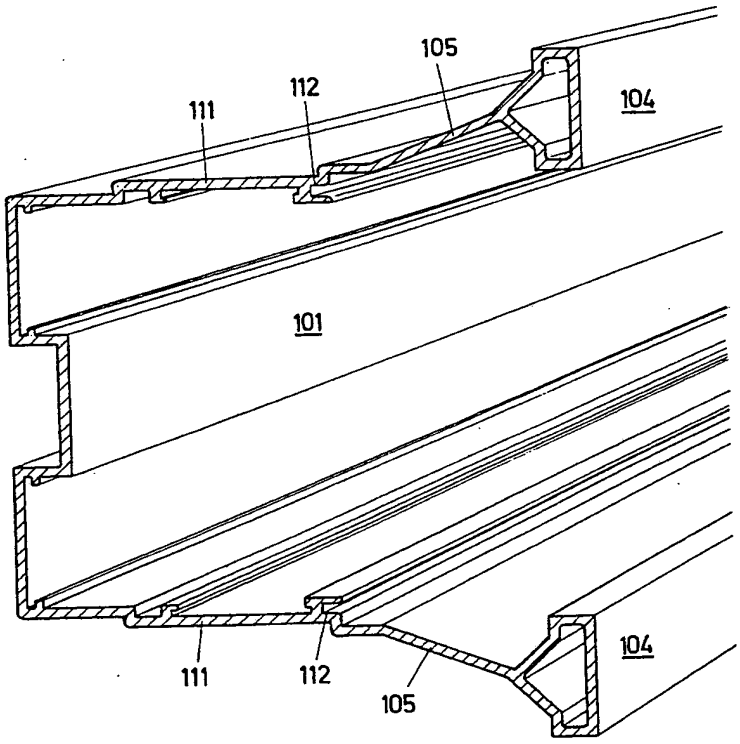
Fig. 3



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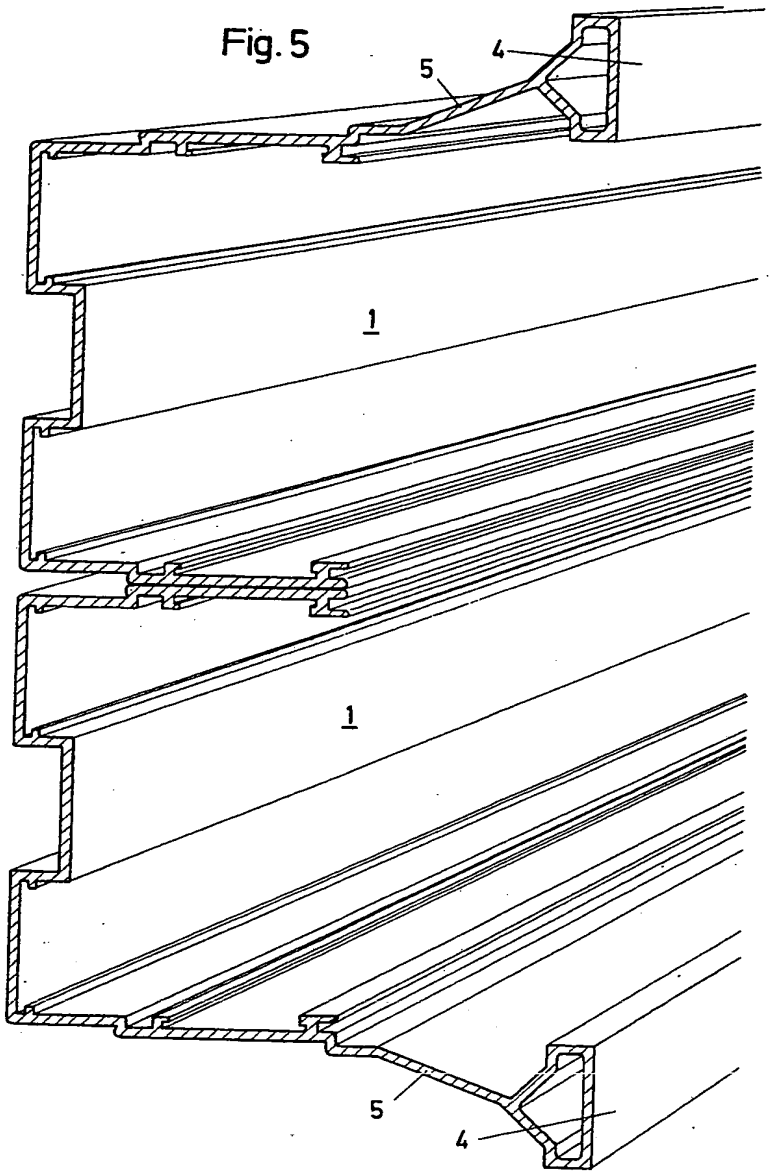
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Fig. 4



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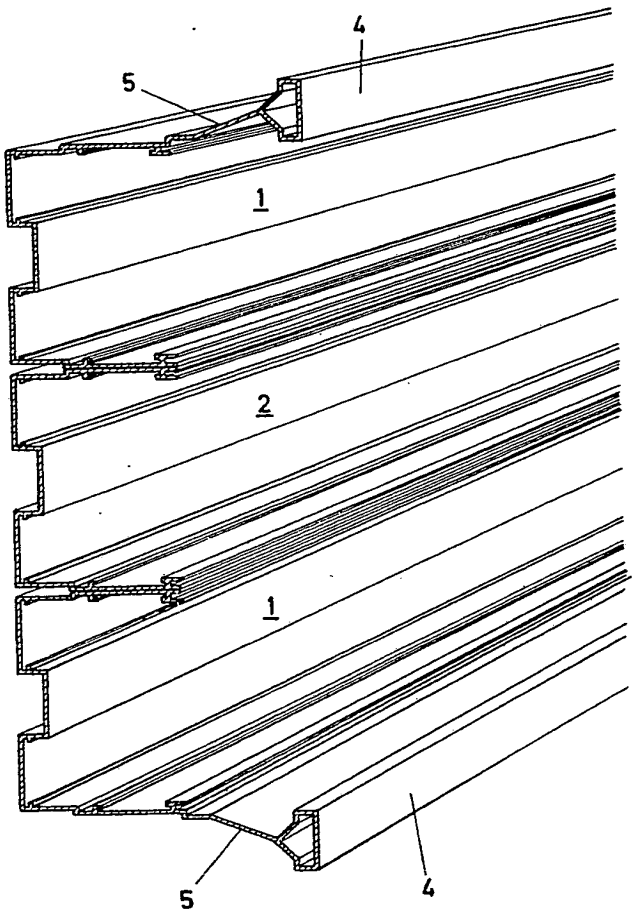
Fig. 5



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Fig. 6



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